APPENDIX B

In the United States Court of Claims

No. 86-66

(Decided March 20, 1970)

SAMUEL L. PALMER AND STANDARD PARTS & EQUIPMENT CORPORATION v. THE UNITED STATES

Herbert J. Brown, attorney of record, for plaintiffs. *Munson H. Lane*, of counsel.

James D. Stokes, Jr., with whom was *Assistant Attorney General William D. Ruckelshaus*, for defendant.

Before COWEN, *Chief Judge*, LARAMORE, DURFEE, DAVIS, COLLINS, SKELTON and NICHOLS, *Judges*.

OPINION

PER CURIAM: This case was referred to Trial Commissioner James F. Davis, with directions to make findings of fact and recommendation for conclusions of law under the order of reference and Rule 57(a) [since September 1, 1969, Rule 134 (h)]. The commissioner has done so in an opinion and report filed on September 9, 1969. Exceptions to the commissioner's opinion, findings of fact and recommended conclusion of law were filed by defendant and the case has been submitted to the court on oral argument of counsel and the briefs of the parties. Since the court agrees with the commissioner's opinion, findings and recommended conclusion of law, as hereinafter set forth, it hereby adopts the same as the basis for its judgment in this case. Therefore, plaintiffs are entitled to recover reasonable and entire compensation for un-

authorized use by defendant of the valid and infringed patent claim and judgment is entered for plaintiffs with the amount of recovery to be determined pursuant to Rule 131(c)(2).

OPINION OF COMMISSIONER

DAVIS, *Commissioner:* This is a patent suit under 28 U.S.C. § 1498 to recover "reasonable and entire compensation" for unauthorized use by the government of plaintiffs' patented invention. Only the issue of liability is before the court; accounting, if any, is deferred to later proceedings. The patent in suit, issued to Samuel L. Palmer in 1957, relates to emergency lights, particularly useful for marking airport runways at night. Palmer is one plaintiff; his coplaintiff is Standard Parts & Equipment Corporation (hereafter "Standard"), the exclusive licensee under the patent.

This case was earlier before the court on defendant's motion for summary judgment that the patent is invalid as "anticipated" under 35 U.S.C. § 102 or "obvious" under 35 U.S.C. § 103 in view of certain prior art patents. The trial commissioner recommended denial of the motion. *Palmer et al. v. United States*, 155 USPQ 524 (1967). The court affirmed, per curiam, *Samuel L. Palmer and Standard Parts & Equip. Corp.* v. *United States*, 182 Ct. Cl. 896, 156 USPQ 689 (1968), remanding the case for trial and noting that it was leaving open "the issue of the validity of the patent under 35 U.S.C. § 103," and "the impact upon this case of the rule of *General Electric Co.* v. *Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945)."

Trial was held. Plaintiffs introduced evidence of commercial success, felt need, and failure of others, all of which the U.S. Supreme Court has held may constitute "secondary considerations" in resolving the issue of "obviousness or unobviousness" under 35 U.S.C. § 103. *Graham* v. *John Deere Co.*, 383 U.S. 1, 17–18, 148 USPQ 459, 467 (1966). Defendant introduced additional prior art, not considered by the Patent Office, and adheres to its contention that the patent is invalid under 35 U.S.C. §§ 102 or 103. Defendant also says the patent is not infringed and is invalid under 35 U.S.C. § 112 which requires, among other things, that patent claims "particularly point out and distinctly claim" the invention.

For reasons below expressed, the patent is held valid and infringed.

Patent in suit

Palmer's patented invention is the essence of simplicity. It is a battery-operated electric lamp secured to a bag filled with ballast, such as gravel, sand or the like. By way of background, Palmer served in World War II and in the Korean War as an Air Force pilot. Flying in Asia in the 1940's, and later in Iceland in the early 1950's as operations officer of the Icelandic Defense Command, he recognized the need for a safe and dependable portable landing light for use with temporary or emergency landing strips or with established airfields in the event of an electrical power failure at night. Kerosene smudge pots were commonly used during both wars. However, smudge pots were not entirely satisfactory because they created a fire hazard, required liquid fuel, produced smoke, and were dirty to handle. Palmer's concern for adequate emergency lights was shared by Col. M. A. Elkins, formerly commanding officer of Andrews Air Force Base (AFB), who served with Palmer in the Air Force in Iceland. Elkins recalled occasions in Iceland when smudge pots were used but were unsatisfactory because unstable on snow, particularly in high winds. Elkins also recalled fires during his Air Force career caused by overturned smudge pots at the scene of aircraft accidents.

Sometime during or shortly after serving in Iceland, Palmer conceived the idea of a battery-operated emergency light having a flexible support base filled with loose ballast, the ballast being removable from time to time. The light was intended to be mobile, dependable, nonhazardous, and useful under all adverse weather and terrain conditions. In 1953, Palmer made and tested several prototype devices, the details of which are not clear from the record.

In 1955, Palmer filed his patent application. As described in the specification and drawing, the light consists of a bag with an open mouth in which an electric lamp is inserted and through which ballast is added to or removed from the bag. The bag is made of flexible material, such as canvas. Material at the mouth of the bag is hemmed around a stiffener wire which provides a circular opening. The lamp comprises a

transparent dome, a reflector, an incandescent bulb, a battery receptacle, a battery, and associated wiring. A clamp, similar to an automobile radiator hose clamp, holds together the elements of the lamp and secures them in the bag opening. Ballast is put into or taken out of the bag by loosening the clamp and removing the lamp.

The "crux of the invention," so plaintiffs assert, is that the bag is "normally empty" and is intended to be filled with ballast in use and emptied of ballast when not in use. The patent specification says:

* * * * *

> Another object [of the invention] is to provide a collapsible support for an electric emergency light which may be readily filled with natural ballast, such as sand, gravel, broken ice or snow available at the place of use.
>
> * * * * *
>
> In operation, the bags * * * may be filled with any convenient ballast * * * and dropped from a truck at intervals along the borders to be outlined. * * * the ballast should be removed when the emergency light units are not in use so as to preserve the bags. * * *

* * * * *

In 1955, soon after filing his patent application, Palmer entered into a license contract with Sta-Parts Manufacturing Company, Fort Worth, Texas (hereafter "Sta-Parts"), to make a device called the "Bekon" light. The "Bekon" differs from the device disclosed in the patent specification in the following material respects: (1) The electric lamp is permanently secured in the mouth of the bag by a metal band which surrounds the bag's throat; and (2) ballast is added to or removed from the bag through a zippered slot on one side. Palmer and representatives of Sta-Parts visited Wright-Patterson Air Force Base, and Army personnel in Washington, D.C., soliciting interest in the "Bekon" light. The Army tested it in 1956; evaluated drawings submitted by Sta-Parts; and in 1959 issued a military specification setting out requirements for an emergency light substantially like the "Bekon." In 1962 the Defense Department issued a tri-service military specification incorporating the earlier Army specification.

Plaintiffs have furnished thousands of "Bekon" lights to defendant under military specification since 1959 for use

by all three military services. Some lights were furnished to the Air Force even earlier. The Army has been the largest procurer, purchasing the lights either as individual units or together with canvas carrying bags in which 12 lights are stored in separate pockets without ballast. The carrying bag is of rugged construction and is designed to be transported by hand or vehicle from place to place, or dropped by helicopter; and the lights are intended to be filled with ballast where used.[1] The Air Force has used the lights to line runways in emergencies and to mark helicopter landing areas. Colonel Elkins, while at Andrews AFB in 1955, tested "Bekon" lights and procured a substantial number. The lights were filled with sand ballast and stored on tow trailers for ready availability in event of aircraft emergency landings. At least once, lights were transported to another Air Force base, the ballast being removed before shipment.

About 1965, defendant began procuring emergency lights, in all material respects identical to the "Bekon" light, from sources other than plaintiffs. This suit followed:

The patent claim

The sole patent claim reads:

> An emergency light comprising
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> a normally empty flexible bag,
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> a self contained electric light unit comprising
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> a battery housing,
>
> means supporting a light source in operative association with said housing, and
>
> a transparent cover enclosing said light source,
>
> means attaching said bag to said unit in such manner as to provide, when filled with suitable loose weights, a base for said unit,
>
> an aperture in said bag through which said weights may be inserted or removed, and
>
> means for opening said aperture to permit filling said bag.

[1] The bags are stenciled with instructions: "Fill with ballast before using."

A threshold issue is the scope and meaning of the claim. Defendant says the claim fails to comply with 35 U.S.C. § 112[2] because (1) the phrase "normally empty" is "hazy and indefinite"; and (2) an element of the claimed combination, viz. the circular clamp, is "twice recited" thus rendering the claim "ambiguous, vague and indefinite." A principal purpose of § 112 is to require patentees to define their inventions with such particularity that would-be infringers know the metes and bounds of legal protection to which the patentee is entitled. *Brooks* v. *Fiske*, 56 U.S. (15 How.) 212, 214–15 (1853); *Nelson* v. *Batson*, 322 F. 2d 132, 138 USPQ 552, 553 (9th Cir. 1963). Claims are to be construed in light of the specification. *Dominion Magnesium Ltd.* v. *United States*, 162 Ct. Cl. 240, 320 F. 2d 388, 138 USPQ 306 (1963). And claim construction, a practical matter, should be done on a rational basis to avoid unreasonable and unjust results. *Emery Industries, Inc.* v. *Schumann*, 111 F. 2d 209, 45 USPQ 12 (7th Cir. 1940); *IV Walker, Patents* § 264 (Deller's 2d ed. 1964). Defendant's objection to the phrase "normally empty" appears to be that it is misdescriptive. Defendant says, "* * * if the claimed device is really supposed to be an 'emergency' light it would *not* be 'normally empty' but rather it would be 'normally full' of ballast so as to be ready to set up on a runway."

Though not expressly defined in the patent specification, we think the phrase "normally empty" is clear when read in light of the disclosure as a whole. It states the patentee's concept that the ballast bag is intended to be filled with ballast prior to and in use and emptied of ballast otherwise. The device described in the patent specification is directed to that end, though the specific embodiment disclosed is not as practical as plaintiffs' commercial "Bekon" light. No doubt, as defendant suggests, one could fill the bag with ballast and keep the bag filled throughout its life, in which case the bag would not be "normally empty." But that is not the mode of use contemplated by the patentee, nor is it the way the bags are actually used. The patent teaches using "natural ballast"

[2] Section 112 * * *

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. * * *

available at the use site, such as "sand, gravel, broken ice or snow," and also suggests removing ballast when the lights are not in use "to preserve the bags." As already noted, the Army uses the bags precisely as contemplated in the patent, *i.e.*, the bags are filled on site and emptied thereafter before transport. The Air Force keeps the bags filled, when on tow trailers and ready for use on runways, but empties them prior to shipment elsewhere.

Defendant further argues that the claim is "indefinite" because the circular clamp is "twice recited," once as "means attaching said bag to said unit" and again as "means for opening said aperture to permit filling said bag." Plaintiffs deny double recitation of the clamp. But as the claim must be construed to be supported by the specification, the clamp is at least part of each "means." (See finding 7.) In any event, double recitation of elements of combination inventions does not necessarily render a claim vague and indefinite, particularly if the claim is drafted in terms of means clauses under 35 U.S.C. § 112, or if an element performs more than one function or overlapping functions. *Phillips* v. *Lynch & Larew*, 367 F. 2d 601, 607, 151 USPQ 400, 405 (CCPA 1966); *Ellis*, "*Patent Claims*", § 17 (1949). As stated by the Court of Customs and Patent Appeals in *In re Kelley*, 305 F. 2d 909, 916, 134 USPQ 397, 402 (CCPA 1962), "The governing consideration is not *double inclusion*, but rather is what is a reasonable construction of the language of the claims." Because the bag disclosed in the patent specification has but one aperture, the clamp serves dual functions: it closes the bag to hold in ballast and secures the lamp in the bag. It therefore is properly considered an element of each means clause and does not render the claim indefinite. Accordingly, the claim complies with 35 U.S.C. § 112.[3]

[3] The somewhat unorthodox manner in which the claim is drafted can be explained by applicant's desire to include within its scope the commercial version of the invention, the "Bekon" light. Since the ballast bag of the "Bekon" has two apertures (one for the lamp, one for ballast removal) rather than one as disclosed in the patent specification, the claim was written to cover both embodiments. Read literally, the claim comes closer to defining the "Bekon" light than the device disclosed in the patent specification and drawing. However, defendant has never contended, nor did the patent examiner, that the claim is not supported by the disclosure, as it must be under the law. 35 U.S.C. § 112; Patent Office Rule 75 (37 C.F.R. § 1.75). Construed as set out in finding 7, the claim is so-supported.

Validity

Defendant says the patent claim is invalid under 35 U.S.C. § 102(b) as anticipated by a U.S. patent to Ford et al ("Ford patent"). Alternately, defendant says the claim is invalid under 35 U.S.C. § 103 as defining an invention which is obvious within the meaning of the statute. To anticipate, a prior art reference must disclose all the elements of a claimed combination, or their equivalents, functioning in substantially the same way to produce substantially the same result. *Straussler v. United States*, 168 Ct. Cl. 852, 339 F. 2d 670, 143 USPQ 443 (1964); *Palmer, supra.* The Ford patent, issued in 1951 and entitled "Safety Stanchion," teaches a "collapsible or fluid inflatable safety stanchion" for use as a "highway warning device or similar form of danger signal." It is made of rubberized fabric and is said to fill a need for safety stanchions which cause no "serious bodily injury and property damage as a result of persons or vehicles colliding with them." It comprises in essence an inflatable tube base, four upright inflatable support tubes around which is fastened a fabric sheet, an inflatable tubular ring at the top of the support tubes, and a "flasher light or signal" mounted on a wood platform atop the tubular ring. Though no dimensions are set out in the patent specification, the drawing suggests the device to be about 3–4 feet high. In use, the support tubes and tubular ring are inflated with air to vertical upright position. The base is filled with water to stabilize the stanchion against overturn. Other weights such as "water, soil, stones or other forms of weighting means" can be put into the device through the top by removing the wood platform.

Though totally different from plaintiffs' emergency light in appearance, size and mode of use, defendant says Ford anticipates because it teaches a "battery-operated light having a collapsible base adapted to receive loose weight ballast material through an opening at its top." We hold, however, that despite certain similarities in principle between the devices, there is not the identity of means, function and result necessary to make out anticipation. For example, Ford does not have a "bag" which is "filled with suitable loose weights" within the meaning of plaintiffs' specification and claim. Defendant recognizes this, but argues that "the stan-

chion could be filled with ballast to the top if that were desired" thus using the stanchion walls "to retain that ballast," and serve as a bag. Nothing in Ford suggests such use; and in fact, it is contrary to the patentees' intent since the stanchion, resilient and filled with pressurized air, must give way when hit by a vehicle. If filled with ballast material, it would no longer be a resilient device. Therefore, defendant's interpretation of Ford as anticipatory prior art is without merit.

Whether the claim defines an invention obvious under 35 U.S.C. § 103 requires factual analysis of (1) the scope and content of the prior art, (2) the differences between the prior art and the claim in issue, and (3) the level of ordinary skill in the pertinent art. Secondary considerations such as commercial success, satisfying felt need, and failure of others may have relevance. *Graham* v. *John Deere Co.*, *supra*; *Martin Marietta Corp.* v. *United States*, 179 Ct. Cl. 70, 373 F. 2d 972, 153 USPQ 206 (1967). To show the prior art, defendant relies on 14 patents and some earlier military specifications which teach, among other things, a variety of battery operated emergency lights. (Findings 12-19.) None of the prior art lights, however, use plaintiffs' idea of a flexible bag support base in which ballast can readily be added to or removed from the bag. In fact, the prior devices show that despite no dearth of activity in the art of portable emergency lights, particularly during and just after World War II, no one came up with Palmer's simple but highly practical idea until 1953, even though the problem of adequate aircraft emergency lights is as old as flying itself. This is persuasive evidence of unobviousness. Also pertinent is the fact that for the most part, the prior art devices are relatively complicated and expensive to make and repair, and are not adaptable for use over a wide range of operating conditions. Under the circumstances, therefore, the simplicity of plaintiffs' light is a hallmark of its unobviousness. *Aronson* v. *Toy Devices, Inc.*, 1 F. 2d 91 (3d Cir. 1924); *van Veen* v. *United States*, 181 Ct. Cl. 884, 386 F. 2d 462, 156 USPQ 403 (1967).

Defendant stresses two references, not cited by the Patent Office, a U.S. patent to Gearon et al ("Gearon") and a Brit-

ish patent to Scott-Foxwell, both of which were considered by this court in the earlier proceeding on summary judgment. Gearon relates to signal flares of the type used by trainmen to warn succeeding traffic of an emergency. The flare is mounted in a perforated paper bag filled with sand which serves as a weighted base. When thrown from a moving train, the bag, upon hitting the ground, bursts at the perforations and sand seeps out to form a widened support base for the flare. Scott-Foxwell teaches a flexible bag support base "for supporting articles [*e.g.*, a reading lamp] on uneven, slippery or yielding surfaces." The bag has a circular opening through which "an amorphous or pulverulent mass" such as kaolin[4] is put as ballast. The opening is sealed by sandwiching bag material at the periphery between two circular discs held together by a screw and nut. The discs, besides sealing up the bag, serve as a support for the reading lamp or other article attached to the bag. There is no suggestion in the patent that the discs be removed from time to time to add or remove ballast, there being no apparent reason to do so.

Patents are presumed valid. 35 U.S.C. § 282. Defendant says, however, the presumption of validity is overcome here because Gearon and Scott-Foxwell are more pertinent prior art than considered by the Patent Office. During prosecution of the patent application, the patent examiner considered prior art patents in two categories: (1) Those which teach an electric light secured atop a support such as a portable metal base, and (2) those which teach beanbag or loose ballast-containing supports in combination with ashtrays, baby bottle holders, and the like. The examiner rejected broad claims to the combination of an electric light with a loose ballast-containing support on grounds that such combinaton would be obvious in view of (1) and (2), above. Applicant then narrowed the scope of the claim by reciting as a limitation, among other things, that the bag was "normally empty", a difference not taught by the art and one crucial to a proper defining of the invention. The examiner thereafter allowed the claim. Gearon does not disclose a normally empty support bag in combination with a battery-operated light. It is

[4] Kaolin is finely divided aluminum silicate, somewhat like talcum powder.

no more pertinent than prior art considered by the Patent Office. While Scott-Foxwell suggests the combination of a reading lamp with a loose ballast-containing bag, a concept closer to the device in suit than any considered by the Patent Office, it still does not teach the essential features upon which patentability was predicated. Accordingly, the presumption of validity is not overcome. *See Preformed Line Products Co. v. Fanner Mfg. Co.*, 328 F. 2d 265, 271, 140 USPQ 500, 505 (6th Cir. 1964), *cert. denied*, 379 U.S. 846.

Plaintiffs stress commercial success and satisfying felt need as indicia of unobviousness. While these factors are but "secondary considerations," they are entitled to weight here. The government has procured thousands of the plaintiffs' lights, which in itself indicates satisfaction of felt need. No doubt in most instances, they replaced smudge pots or other less suitable equipment. And so far as the record shows, the military services specify no other emergency light which is so simple of construction, relatively inexpensive, easy to maintain and repair, and readily transportable for use under widely varying operating conditions. (See finding 19.) Colonel Elkins, while commanding officer at Andrews AFB, wrote an article for "the MATS flyer," a publication of the Military Air Transport Service, praising plaintiffs' "Bekon" light. The article says, among other things—

> The problem of ballast, a minor one, also came in for experimentation. Andrews AFB finally settled on sand, after trials with gravel. It is felt that this ballast will prove sufficient even under the stress of high winds or direct jet blast. Any type of ballast can be used—snow, dirt, rocks, water (let freeze), among others.
>
> I have long felt the need for a more satisfactory emergency light, and through the continuous testing conducted by Wing Operations and Transient Maintenance, I feel that we have found the answer in Bekon. Hq USAF and other major commands have been closely watching our lead on this.
>
> At Andrews, the Bekon has meant increased readiness, mobility, and flexibility of lighting. And it may soon become as much a part of the Air Force as its namesake, the beacon.

In sum, giving due regard to the prior art, the Patent Office file history of the patent application, and the secondary

considerations of commercial success and satisfying felt need, we hold that plaintiffs' patent satisfies the requirement for patentability under 35 U.S.C. § 103.[5]

Infringement

Infringement is made out if an accused device uses the same means functioning in substantially the same way to accomplish substantially the same result. *Badowski* v. *United States*, 135 Ct. Cl. 93, 140 F. Supp. 544, 109 USPQ 293 (1956); *Barrett* v. *United States*, 186 Ct. Cl. 210, 405 F. 2d 502, 160 USPQ 224 (1968). The accused device, in all material respects identical to plaintiffs' "Bekon" light, meets these criteria and responds to the terms of the claim.

Defendant says, however, the claim must be narrowly construed to cover only the device shown in the specification and drawing. We see no valid reason from the prior art or the Patent Office file history for so-limiting the claim. *Zonolite Co. & Insulating Concrete Corp.* v. *United States*, 138 Ct. Cl. 114, 149 F. Supp. 953, 113 USPQ 223 (1957). However, even if so-limited, it is entitled to a reasonable range of equivalents, commensurate with the scope of the invention. *Graver Tank & Mfg. Co.* v. *Linde Air Products Co.*, 339 U.S. 605 (1950); *Pratt & Whitney Co.* v. *United States*, 170 Ct. Cl. 829, 345 F. 2d 838, 145 USPQ 429 (1965). In the accused device, ballast is added to or removed from the bag through a slot on the bag's side, rather than through the opening which houses the lamp. While no doubt the accused structure is a practical improvement over the embodiment shown in the patent, its means, function and result are essentially the same.

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[5] The "rule" of the *General Electric* case, alluded to by this court in earlier proceedings, is not inconsistent with holding patentability here. *General Electric*, decided in 1945, simply held that the invention there in suit, though novel, was unpatentable because it lacked "invention." *See General Electric*, *supra*, at 248, where the Court says: "* * * it does not appear in the present case that prior to Pipkin electric bulbs had been frosted on the interior with rounded rather than sharp angular crevices or pits [hence, novelty]." However, the Court then said, "In view of these [prior art] disclosures, it is difficult to see how there could be *invention* in frosting either the outside or inside of an electric bulb * * *." (Emphasis added.)

The 1952 Patent Act, in 35 U.S.C. § 103, for the first time stated the requirement for "invention" in terms of obviousness to those skilled in the art; and the Supreme Court in 1966 set out guidelines under which § 103 is to be applied. *Graham*, *supra*. Those guidelines are here followed. They were also followed in *van Veen*, *supra*, another case in which this court considered *General Electric*.

Finally, defendant says plaintiffs have not proved infringement because they failed to show that the government uses the accused device in the same manner as plaintiffs' "Bekon" light. While it is true plaintiffs' proofs were directed to how the "Bekon" is used, the accused device and the "Bekon" are, in all material respects, identical and are made and procured under the same military specification presumably for the same purpose. Similar use can be inferred. Nothing in the record suggests otherwise.

Accordingly, the claim is infringed.

Findings of Fact

1. This is a patent suit under 28 U.S.C. § 1498. Plaintiffs seek reasonable and entire compensation for unauthorized use by and manufacture for defendant, the United States, of the invention disclosed and claimed in U.S. Patent No. 2,806,131, entitled "Runway Emergency Lights," issued to Samuel L. Palmer on September 10, 1957, on an application filed February 10, 1955. Plaintiffs' petition was filed in this court on March 7, 1966.

2. Samuel L. Palmer, owner of the patent in suit, is one plaintiff. The other plaintiff, Standard Parts & Equipment Corporation (hereafter "Standard"), is a Texas corporation with its principal place of business in Fort Worth, Texas. Standard is exclusive licensee under the Palmer patent by virtue of license agreements with Palmer dated March 25, 1955 and August 1, 1959.

3. This case was earlier before the court on defendant's motion for summary judgment on grounds that the patent is invalid under 35 U.S.C. §§ 102 and 103 in view of certain prior art patents. The trial commissioner recommended denial of the motion. *Palmer et al.* v. *United States*, 155 USPQ 524 (1967). The court affirmed, per curiam, *Samuel L. Palmer and Standard Parts & Equip. Corp.* v. *United States*, 182 Ct. Cl. 896, 156 USPQ 689 (1968), remanding the case for trial and noting that it was leaving entirely open "the issue of the validity of the patent under 35 U.S.C. § 103" and "the impact upon this case of the rule of *General Electric Co.* v. *Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945)."

4. The issues before the court are patent validity under 35 U.S.C. §§ 102, 103 and 112 and patent infringement. The parties have agreed to defer trial on the accounting issue, if any, until a ruling by the court on the issues of validity and infringement.

5. (a) The Palmer patent relates to emergency lights, particularly useful for marking airport runways at night, but also useful for outlining wrecked airplanes on an airfield or stalled vehicles along highways. The emergency light is a battery-operated electric lamp secured to a bag filled with ballast, such as gravel, sand, or the like. The bag has an open mouth in which the lamp is inserted and through which ballast is added to or removed from the bag. The patent specification says:

> * * * * *
>
> Another object [of the invention] is to provide a collapsible support for an electric emergency light which may be readily filled with natural ballast, such as sand, gravel, broken ice or snow available at the place of use.
>
> * * * * *
>
> In operation, the bags * * * may be filled with any convenient ballast * * * and dropped from a truck at intervals along the borders to be outlined. * * * the ballast should be removed when the emergency light units are not in use so as to preserve the bags * * *.
>
> * * * * *

As described in the patent specification and shown in patent Figs. 2 and 3, reproduced herein, the bag 22 is made of "any suitable flexible material, such as canvas, fabric nylon or flexible plastic materials such as polystyrene." The electric lamp unit comprises a transparent dome 10, a reflector 17, an incandescent bulb 20, a battery receptacle 16, and a battery in the receptacle (not shown in the drawing). The lamp unit is secured in the mouth of the bag by a circular clamp 14, similar to an automobile radiator hose clamp, which has a thumb screw for loosening or tightening the clamp. The fabric at the mouth of the bag is hemmed around a stiffener wire 24, which provides a circular opening to the bag. Clamp 14 is U-shaped and holds the lamp in the bag by engaging (a) a shoulder 12 on the lower part of dome 10 and (b) stif-

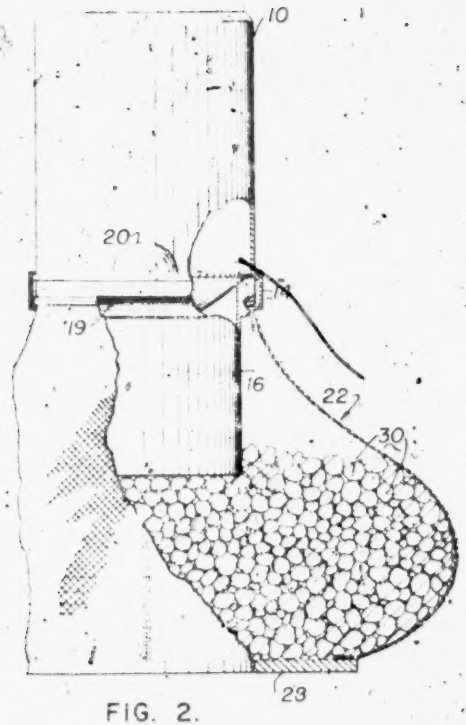

FIG. 2.

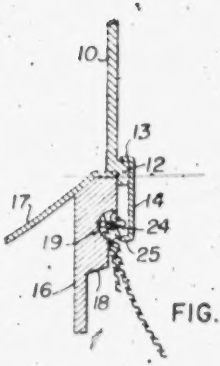

FIG. 3.

fener wire 24 which rests in groove 19 around the top of battery receptacle 16, thereby fastening together the dome, reflector and battery receptacle. Ballast is put into or taken out of the bag by loosening the clamp, disassembling the lamp unit, and removing the battery receptacle, thereby opening the mouth of the bag.

(b) Plaintiffs' commercial device, called the "Bekon" light, differs from the device disclosed in the patent in the following material respects: (a) The lamp is housed in a cylindrical canister which is permanently secured in the mouth of the bag by a metal band which surrounds the throat of the bag, and (b) ballast is added to or removed from the bag through a zippered slot near the bottom of one edge of the bag.

6. The sole patent claim reads:

An emergency light comprising

a normally empty flexible bag,

a self contained electric light unit comprising

a battery housing,

means supporting a light source in operative association with said housing, and

a transparent cover enclosing said light source,

means attaching said bag to said unit in such manner as to provide, when filled with suitable loose weights, a base for said unit,

an aperture in said bag through which said weights may be inserted or removed, and

means for opening said aperture to permit filling said bag.

7. (a) The patent application, as filed by Palmer in 1955, asserted three claims. Claim 1 read:

An emergency light comprising

flexible bag having a mouth in its upper end,

loose weights within said bag,

a self contained electric light unit within the mouth of said bag, and

a transparent cover over the lamp of said electric light unit.

Claim 2 depended on claim 1, further reciting a "detachable clamp" for holding the light unit in the mouth of the bag. Claim 3 also depended on claim 1, further reciting a "non-breakable flat material" on the bottom of the bag.

The patent examiner rejected all claims as "unpatentable over" certain prior art patents. Applicant then added a fourth claim and further responded by rebutting the examiner's position regarding the teachings of the prior art. Included with the response was a copy of an advertising brochure showing the "Bekon" light which was said "to pictorially illustrate the advantages of applicant's invention." The examiner again rejected all the claims, making the rejection final.

Thereafter, applicant sought and was granted an interview with the examiner, pursuant to Patent Office Rule 133 (37 C.F.R. § 1.133). All claims were canceled and new claim 5 (the claim in suit, finding 6) was added. In remarks accom-

panying the amendment adding the new claim, applicant noted, among other things, that

> As rewritten, the new claim sets forth sufficient structure to accomplish applicant's intended purpose, namely, an emergency light capable of being dropped from a moving vehicle. This is developed in the claim by reciting a normally empty flexible bag and means filling and removing the loose weights, together with sufficient structure to complete the claim. * * *

The examiner allowed claim 5 and passed the application to issue.

(b) The allowed claim is narrower in scope and differs in form and content from earlier asserted claims. The terms "normally empty," "means attaching said bag to said unit," "aperture," and "means for opening said aperture" were used for the first time in the new claim. They find no express antecedent basis in the patent specification or claims as filed. "Normally empty" refers to the concept, noted in the specification, that the bag can be filled with ballast at the situs of use and the ballast "removed when the * * * units are not in use so as to preserve the bags * * *." "Means attaching said bag to said unit" refers to clamp 14, stiffener wire 24, and groove 19 in the battery receptacle. "Aperture" refers to the mouth of the bag, the only opening disclosed through which ballast can be inserted or removed. "Means for opening said aperture" refers to clamp 14 and battery receptacle 16, both of which must be removed to open the mouth of the bag.

8. The parties stipulated that defendant procured from a source other than plaintiffs, within the statutory recovery period, at least one emergency light designated Type III B made in accordance with military specification MIL-L-19661A, dated May 22, 1962, and shown in U.S. Army Corps of Engineers drawing No. 13207E8820. Defendant's procured device is in all material respects like plaintiffs' "Bekon" light. (Finding 5(b).) Both devices have substantially the same means operating in substantially the same way to produce substantially the same result.

9. (a) Samuel L. Palmer, the inventor of the patent in suit, served in World War II and in the Korean War as an Air Force pilot. While flying in Asia in the 1940's, and

later in Iceland in the early 1950's as operations officer of the Icelandic Defense Command, he recognized the need for a safe and dependable portable landing light for use with temporary or emergency landing strips or with established airfields in the event of an electrical power failure at night. Kerosene smudge pots were commonly used during both wars. However, smudge pots were not entirely satisfactory because they created a fire hazard, required liquid fuel, produced smoke, and were dirty to handle.

Sometime during or shortly after serving in Iceland, Palmer conceived the idea of an emergency light having a flexible support base filled with loose ballast. The light was intended to be mobile, dependable, nonhazardous, and useful under all adverse weather and terrain conditions. Palmer testified that, in early 1953, he built a working model, using floursack cloth to make an open-top ballast bag as a support base; corn, gravel and sand as ballast; a small can containing a flashlight battery and a bulb as a light unit; and a worm gear clamp to secure the light unit in the mouth of the bag. The clamp was easily removable to add or remove ballast in the bag. Sometime after February 1953, Palmer built a similar device, using as a base a canvas bag made to his order by a tent and awning manufacturer in Fort Worth, Texas. The details of construction of the second device are not clear from the record. Later, Palmer testified he made another similar device, but with a zipper along one side of the bag for adding or removing ballast; and it was tested on a runway at night at Meacham Field, Fort Worth, Texas, sometime in 1953.

(b) Before 1955, Palmer contacted representatives of Sta-Parts Manufacturing Company, Fort Worth, Texas (hereafter "Sta-Parts"), to discuss a licensing contract. In 1955, soon after filing his patent application, Palmer and Sta-Parts entered into an exclusive license agreement to make a device called the "Bekon" light; and in 1959, the agreement was amended, transferring it from Sta-Parts to coplaintiff, Standard. Standard is wholly owned by Sta-Parts.

In 1955, Palmer and representatives of Sta-Parts visited Wright-Patterson Air Force Base, and U.S. Army personnel in Washington, D.C., soliciting interest in the "Bekon" light. In 1956, the Army at Fort Rucker tested the light.

Thereafter, Standard submitted drawings to the Army at Fort Belvoir, Virginia, for evaluation; and in 1959, the Army issued a military specification setting out requirements for a device substantially like the "Bekon" light. In 1962, the Defense Department issued a tri-service military specification which included a light like the "Bekon" as one of several devices designated "Light, Marker, Portable, Emergency, Airfield, Battery Operated." It was the only specified device with a flexible bag base for holding loose ballast. Standard has furnished "Bekon" lights to defendant under military specifications since 1959 for use by all three military services. Some, however, were sold earlier to the Air Force. The lights are furnished with empty bags marked "Fill with ballast before using." Most procurement has been by the Army which purchased the lights either as individual units or along with a canvas carrying bag in which 12 lights are stored without ballast. The carrying bag is of rugged construction and is designed to be transported from place to place by hand or vehicle, and even dropped by helicopter; and the lights are intended to be filled with ballast where used. The Air Force has used the lights to line runways in emergencies and to mark helicopter landing areas. There is no evidence how the Navy uses the lights.

10. Col. Marshall A. Elkins, formerly commanding officer of Andrews Air Force Base, testified at trial. Elkins served with Palmer in the Air Force in Iceland in the early 1950's and shared Palmer's concern for adequate emergency runway lighting. Elkins recalled occasions in Iceland where smudge pots were used but were not satisfactory because unstable on snow, particularly in high winds. He also recalled fires during his Air Force career caused by overturned smudge pots at the scene of aircraft accidents.

In 1955 while at Andrews, Elkins tested "Bekon" lights. Thereafter, a substantial number were procured and used at Andrews. The lights were filled with sand ballast and stored on tow trailers for ready availability in event of aircraft emergency landings. At least once, lights were transported to another Air Force base, the ballast being removed before shipment.

Elkins wrote an article in "the MATS flyer" (April 1956), a publication of the Military Air Transport Service. The article praises plaintiffs' emergency light, noting among other things the "zippered base for ease in loading ballast." Further, the article states—

> The problem of ballast, a minor one, also came in for experimentation. Andrews AFB finally settled on sand, after trials with gravel. It is felt that this ballast will prove sufficient even under the stress of high winds or direct jet blast. Any type of ballast can be used—snow, dirt, rocks, water (let freeze), among others.
>
> I have long felt the need for a more satisfactory emergency light, and through the continuous testing conducted by Wing Operations and Transient Maintenance, I feel that we have found the answer in Bekon. Hq USAF and other major commands have been closely watching our lead on this.
>
> At Andrews, the Bekon has meant increased readiness, mobility, and flexibility of lighting. And it may soon become as much a part of the Air Force as its namesake, the beacon.

11. From 1956 to 1968, Sta-Parts and Standard sold about 47,700 "Bekon" lights to defendant for use by its various agencies. Sales to other purchasers (*i.e.*, commercial companies; and state and local governments) during the same period were about 2,500. Plaintiffs have not advertised in nationally distributed magazines. About 4,500 sales flyers describing the "Bekon" have been circulated to the trade since 1960.

12. Defendant relies on the following prior art patents:

Patentee and country	No.	Date issued	Considered by Patent Office
Allen (U.S.)	1,778,545	Oct. 14, 1930	Yes
Allen (U.S.)	2,450,927	Oct. 12, 1948	"
Bellow (U.S.)	2,219,974	Oct. 29, 1940	"
Briggs (U.S.)	2,492,837	Dec. 27, 1949	No
Cline (U.S.)	Des. 136,406	Sept. 28, 1943	"
Congdon (U.S.)	1,425,945	Aug. 15, 1922	Yes
Firestone (Brit.)	546,533	July 17, 1942	No
Ford et al (U.S.)	2,561,016	July 17, 1951	"
Gearon et al (U.S.)	2,547,698	Apr. 3, 1951	"
Haines (U.S.)	2,090,293	Aug. 17, 1937	"
Miller (U.S.)	2,346,695	Apr. 18, 1944	"
Newstead (Brit.)	513,223	Oct. 6, 1939	"
Reese (U.S.)	1,308,809	July 8, 1919	"
Scott-Foxwell (Brit.)	622,680	May 5, 1949	"

12. The two Allen patents and the Bellow and Scott-Foxwell patents all relate to flexible bag support bases. Allen '545 teaches "a bag of rubber or of other yieldable fabric" filled with "sand, gravel, shot, or other suitable yieldable material." The bag has straps on top to hold and support a baby bottle. In one embodiment, the bag is provided with screw caps by which it can be opened "for changing, removing or refilling" with filler material. Allen '927 is similar in respects here material to Allen '545, except that the support base is a bag zippered along one edge to provide access to its interior; and within the base bag is a second bag, called an "inner" bag, which holds filler material described as a "loose mass of relatively heavy mobile particles." The patent says, "By making the inner bag readily removable, the outer member may be quickly and easily washed and maintained sanitary."

Bellow teaches a bowl-shaped ashtray secured to a beanbag base. The top of the bag is secured to the rim of the bowl by a metal ring over which the rim is curled to secure the bag permanently to the bowl. No provision is made to change from time to time the filler material in the bag.

Scott-Foxwell teaches a flexible bag support base "for supporting articles [*e.g.*, a reading lamp] on uneven, slippery or yielding surfaces." The bag has a circular opening through which "an amorphous or pulverulent mass" is put to serve as ballast or filler material. A suitable mass is "kaolin," a fine, inert powder (aluminum silicate) used in ceramics. (HACKH'S "CHEMICAL DICTIONARY," 1929.) Also suggested is sand or clay. The circular opening is sealed by sandwiching bag fabric, such as chamois leather, at the periphery between two circular discs held together by a screw and nut. The discs, besides sealing up the bag, serve as a support for the reading lamp or other article attached to the bag. From the lower disc, a series of vanes of semi-circular contour project down into the filler material to stabilize the discs.

There is no suggestion in the patent that the discs be removed from time to time to add or remove ballast, there being no apparent reason to do so. The bag has several holes near the top covered by material "pervious to air but not to the kaolin filling" to ensure that no air pockets form and that the lower disc stays in contact with filler material.

14. The patents to Congdon, Newstead and Reese all relate to portable electric lights having weighted support bases. The Congdon device is a "portable self-righting post * * * primarily intended to be employed as a means for controlling street traffic." It comprises a vertical post on top of which is mounted an electric lamp. The post is supported by a heavy metal base with rounded bottom, designed to roll if inadvertently struck by a moving vehicle. The lamp is powered by "gas or liquid fuel, or an electric battery."

Newstead teaches "landing lights for use on emergency landing grounds for aircraft." In one embodiment, the light comprises a spherical metal casing which houses an electric lamp, a concave reflector for directing the light upward, and a battery. The casing is weighted at its bottom with a "mass of lead or the like." The device sets on the ground or, alternatively, on a concave base. Because the casing has a round bottom and is weighted, it will "roll like a ball when struck by an aircraft when landing" and "automatically returns, under the effect of its weight, to its operative position as soon as it has stopped rolling."

Reese teaches a battery-operated lighting device comprising a "small portable incandescent electric lamp," akin to an ordinary flashlight, to which is attached a base of "plastic adhesive substance," such as "modeling clay." The device is designed to be secured to irregular surfaces, the clay shaping itself thereto and holding the light in position "for a practically indefinite period." Uses contemplated for the device are said to be "hunting for objects in dark places, such as under desks, in safes, closets or the like, for plumbers, electricians, housewives, and furnishing light for repairing automobile engines where it is desirable to direct the light upon a small, and sometimes out of the way part, and where no means for supporting an ordinary lamp in such manner as to properly direct the light are available." None of the Congdon, Newstead or Reese devices are designed for readily varying the nature or quantity of weighting material in the base.

15. The Gearon patent relates to signal flares of the type used by trainmen to warn succeeding traffic of an emergency. The flare is mounted in a perforated paper bag filled with sand which serves as a weighted base. When thrown from

a moving train," the bag, upon hitting the ground, bursts at the perforations and sand seeps out to form a widened support base for the flare. The device is intended for a single use and is to be stored, filled with sand, on the "crossbar of a railway car."

16. The Ford patent teaches a "collapsible or fluid inflatable safety stanchion" for use as a "highway warning device or similar form of danger signal." It comprises an inflatable tube base, four upright support members on the base around which is secured a fabric sheet to form an envelope resembling a truncated pyramid, an inflatable tubular ring at the top of the support tubes, and a "flasher light or signal" mounted on a wood platform atop the tubular ring.

In use, the support members are filled with pressurized gas (*e.g.*, air) to inflate the device to vertical upright position. For stability against overturn, the tubular base is designed to be filled with "weighting fluid," such as water. Additional weight may be provided by "water, soil, stones or other forms of weighting means" placed on a web across the tubular base near the bottom of the stanchion. Though not expressly stated in the patent specification, the additional "weighting means" are put on to the web through the top of the device by removing the wood platform which supports the flasher light. The device is made of rubberized fabric and is said to fill a need for safety stanchions which cause no "serious bodily injury and property damage as a result of persons or vehicles colliding with them." Though no dimensions are set out in the patent specification, the drawings suggest the device to be about 3–4 feet high.

17. The Briggs and Cline patents teach portable emergency lights comprising in essence a metal casing for housing a battery, a transparent dome atop the casing, and a gaseous discharge lamp (neon) under the dome and operated by the battery. The base of neither device is weighted other than by the battery in the casing. The Briggs device was made and sold by the Emarco Corporation, Dayton, Ohio, under the trade name "Thoro-Flare." The "Thoro-Flare" light has been used by the U.S. Air Force as a runway marking light and by Washington National Airport, Alexandria, Virginia, to mark obstructions on the airfield.

The Haines patent teaches a highway emergency light,

similar in respects here pertinent to the Briggs and Cline devices, except that the lamp is an ordinary incandescent bulb rather than a gaseous discharge tube. The Haines device is supported in a vertical position by a hollow, bowl-shaped base flared at the bottom for stability. No weights are in the base.

18. The Miller and Firestone patents teach portable lights for use in the water, *e.g.*, as seaplane landing lights. The Miller device comprises a canvas casing containing a battery and a battery housing, a light bulb, and a transparent dome mounted atop the casing and battery housing. Surrounding the battery in the casing is foam rubber which serves to cushion the battery and light when dropped into the water from a ship or airplane. The patent specification says that the device is designed to be "dropped safely into the water from a considerable height and at a considerable velocity as from the top deck of a vessel or from an airplane traveling at night, which will land safely without damage in the water, and which, once it enters the water, will immediately return to the surface thereof and automatically light up." Firestone teaches a self-contained battery-powered electric light unit for use "to designate landing areas for seaplanes." The unit is mounted in a hollow rubber tube, somewhat like an ordinary automobile tire, which serves as a float for the unit. The tube is inflated with air and is colored orange and black on its upper surface to serve as a buoy marker in the daytime. In one embodiment, the light unit does not extend below the bottom of the tube, so that "it can be used in very shallow water."

19. Defendant introduced into evidence the following military specifications to illustrate government requirements for portable electric lights both before and after the invention in suit:

Military specification	Date	Originating service
MIL-L-7747	July 19, 1951	Navy
MIL-L-7747A	Apr. 17, 1953	Navy
MIL-L-19661	Oct. 15, 1956	Navy
MIL-L-19662	Nov. 1, 1956	Navy
MIL-L-7591A	Apr. 1, 1953	Air Force
MIL-L-7591B	Nov. 30, 1959	Air Force
MIL-L-52008	Apr. 23, 1959	Army
MIL-L-19661A	May 22, 1962	Tri-service

The tri-service specification superseded and consolidated the latest specification of each service. Army specification 52068 relates to the type of emergency light here in suit. In the tri-service specification 19661A, the light here in suit is designated "Type III A" and "Type III B."

None of the other devices called for by the above-listed military specifications (Types I, II and IV) have flexible ballast bag supports. In general, they have rigid casings which house batteries, lamps, lenses, and associated electrical wiring. The batteries are either conventional dry cells or mercury cells. The lenses are Fresnel lenses, which are specially designed to diffuse light and constitute part of a "precision optical system." Though relative cost data were not introduced at trial, the Type I, II and IV devices are more sophisticated and complicated than Type III A or III B devices, and accordingly would be more expensive.

Conclusion of Law

Upon the foregoing findings of fact, which are made a part of the judgment herein, the court concludes as a matter of law that the sole claim of U.S. Patent No. 2,806,131 is valid and infringed. Accordingly, plaintiffs are entitled to recover reasonable and entire compensation for unauthorized use by defendant, and judgment is entered to that effect. The extent of liability will be determined in further proceedings before a trial commissioner pursuant to Rule 131 (c)(2).

APPENDIX C

Adjudication of Patent Invalidity in the Court of Claims From January 1953[1] to July 1970

Case	No. of Patents[2]	No. of Patents Held Valid	No. of Patents Held Invalid
1. *Gearon, et al.* v. *U.S.*, 129 Ct. Cl. 315 (1954)	1		1
2. *Bereslavsky* v. *U.S.*, 129 Ct. Cl. 427 (1954)	1	1	
3. *Davis Airfoils, Inc.* v. *U.S.*, 129 Ct. Cl. 514 (1954)	2		2
4. *Alma Motor Co.* v. *U.S.*, 133 Ct. Cl. 59 (1955)	1	1	
5. *Alma Motor Co.* v. *U.S.*, 133 Ct. Cl. 91 (1955)	1		1
6. *Badowski* v. *U.S.*, 135 Ct. Cl. 93 (1956)	1	1	
7. *Paley* v. *U.S.*, 135 Ct. Cl. 245 (1956)	1		1
8. *Smith* v. *U.S.*, 136 Ct. Cl. 487 (1956)	1		1
9. *Zonolite Co., et al.* v. *U.S.*, 138 Ct. Cl. 114 (1957)	1	1	
10. *Breese Burners, Inc.* v. *U.S.*, 140 Ct. Cl. 9 (1957)	2	2	
11. *Specialties Development Corporation* v. *U.S.*, 141 Ct. Cl. 456 (1958)	1	1	
12. *Chesterfield* v. *U.S.*, 141 Ct. Cl. 838 (1958)	2		2
13. *Fallon* v. *U.S.*, 144 Ct. Cl. 321 (1958)	1		1
14. *Bullock, et al.* v. *U.S.*, 146 Ct. Cl. 506 (1959)	1		1
15. *Saulnier* v. *U.S.*, 148 Ct. Cl. 507 (1960)	1	1	
16. *Ace Fastener Corp.* v. *U.S.*, 149 Ct. Cl. 555 (1960)	1		1
17. *Erie Resistor Corp.* v. *U.S.*, 150 Ct. Cl. 490 (1960)	1	1	
18. *Charlotte Chemical Laboratories, Inc.* v. *U.S.*, 154 Ct. Cl. 283 (1961)	1		1
19. *Coakwell* v. *U.S.*, 155 Ct. Cl. 193 (1961)	1	1	
20. *Regent Jack Manufacturing Co., Inc.* v. *U.S.*, 155 Ct. Cl. 222 (1961)	1	1	
21. *Beall* v. *U.S.*, 157 Ct. Cl. 496 (1962)	1		1
22. *Ushakoff* v. *U.S.*, 164 Ct. Cl. 455 (1964)	1	1	
23. *Adams* v. *U.S.*, 165 Ct. Cl. 576 (1964)	1		
24. *Calhoun* v. *U.S.*, 168 Ct. Cl. 663 (1964)	1	1	
25. *Straussler* v. *U.S.*, 168 Ct. Cl. 852 (1964)	1		1
26. *Pratt & Whitney* v. *U.S.*, 170 Ct. Cl. 829 (1965)	2		2
27. *Kemode* v. *U.S.*, 171 Ct. Cl. 698 (1965)	1		1
28. *Connecticut Valley Enterprises, Inc.* v. *U.S.*, 172 Ct. Cl. 468 (1965)	1		1
29. *Haliczer* v. *U.S.*, 174 Ct. Cl. 507 (1966)	1		1
THE FOLLOWING CASES WERE DECIDED AFTER *GRAHAM* v. *JOHN DEERE*			
30. *Dwyer* v. *U.S.*, 174 Ct. Cl. 1064 (1966)	3	1	2
31. *Yosemite* v. *U.S.*, 175 Ct. Cl. 623 (1966)	1	1	
32. *Soundscriber* v. *U.S.*, 175 Ct. Cl. 644 (1966)	6	1	5
33. *Stukenborg* v. *U.S.*, 178 Ct. Cl. 738 (1967)	2	2	
34. *Blumcraft* v. *U.S.*, 178 Ct. Cl. 798 (1967)	1	1	
35. *Martin-Marietta* v. *U.S.*, 179 Ct. Cl. 70 (1967)	2		2
36. *Autogiro* v. *U.S.*, 181 Ct. Cl. 55 (1967)	11	11	
37. *Eastern Rotocraft Corp.* v. *U.S.*, 181 Ct. Cl. 299 (1967)	1	1	
38. *North Electric* v. *U.S.*, 181 Ct. Cl. 589 (1967)	1		1
39. *Bowser, Inc.* v. *U.S.*, 181 Ct. Cl. 834 (1967)	1	1	
40. *Van Veen* v. *U.S.*, 181 Ct. Cl. 884 (1967)	1	1	

APPENDIX C—Cont.

Adjudication of Patent Invalidity in the Court of Claims From January 1953[1] to July 1970

Case	No. of Patents[2]	No. of Patents Held Valid	No. of Patents Held Invalid
42. *Simmonds Precision* v. *U.S.*, 183 Ct. Cl. 969 (1968)	1	1	
43. *Eastern Rotocraft* v. *U.S.*, 184 Ct. Cl. 709 (1968)	2	2	
44. *Barrett* v. *U.S.*, 186 Ct. Cl. 210 (1968)	1		1
45. *Ellicott Machine* v. *U.S.*, 186 Ct. Cl. 655 (1969)	1		1
46. *Tripp* v. *U.S.*, 186 Ct. Cl. 872	1	1	
47. *Tri-Wall* v. *U.S.*, 187 Ct. Cl. 326 (1969)	1		1
48. *Nissen* v. *U.S.*, 189 Ct. Cl. 1 (1969)	1		1
49. *Decca* v. *U.S.*, 420 F. 2d 1010 (1970)	3		3
50. *Garrett* v. *U.S.*, 422 F. 2d 874 (1970)	2	2	
51. *Palmer* v. *U.S.*, 423 F. 2d 316 (1970)	1	1	
Total Pre-*Graham*	33	14	19
Total Post-*Graham*	45	27	18

[1] January 1, 1953 was the effective date of the new Patent Act, 66 Stat. 798.

[2] Figures in this column represent the total number of patents in the case as to which the Court rendered a decision holding one or more claims valid or invalid.

ADJUDICATIONS BY CIRCUITS*

TABLE 1. *All Circuits Courts of Appeals, 1953–1963:*

Year Reported	Total No. of Patents Adjudicated	Valid and Infringed (percent)	Invalid (percent)	Valid but not Infringed (percent)
1953	66	24.2	62.2	13.6
1954	61	14.7	75.5	9.8
1955	44	18.2	63.6	18.2
1956	80	32.5	51.3	16.2
1957	74	20.7	64.9	5.4
1958	60	26.6	66.7	6.7
1959	70	25.7	57.1	17.2
1960	62	30.7	51.6	17.7
1961	59	45.8	42.4	11.8
1962	62	40.3	48.3	11.3
1963	96	28.1	53.2	18.8
Total and Averages	734	29.0	57.4	13.6

*The following tables are reproduced from Gausewitz, *Brief in Support of Proposed Amendment, Section 103, Title 35, Patents, U.S. Code*, 51 Journal of the Patent Office Society, 299, 332–333 (May 1969).

TABLE 2. *Courts of Appeals By Circuit.*

Circuit No.	Total No. of Patents Adjudicated	Valid and Infringed (percent)	Invalid (percent)	Valid but not Infringed (percent)
1	49	20.4	57.1	22.5
2	90	14.4	73.4	12.2
3	71	16.9	77.5	5.6
4	62	43.6	45.1	11.3
5	82	43.8	40.3	15.9
6	93	26.9	60.2	12.9
7	119	35.3	47.9	16.8
8	30	10.0	76.7	13.3
9	112	29.5	58.0	12.5
10	21	57.2	38.1	4.7
D.C	5	0	60.0	40.0
Total and Averages	734	29.0	57.4	13.6

Courts of Appeals cases decided subsequent to Graham *v.* John Deere *(February 21, 1966) and reported in the U.S. Patent Quarterly prior to December 1, 1968.*

Circuit	Patents Adjudicated	Valid and Infringed (percent)	Invalid (percent)	Valid but not Infringed (percent)	Valid, but Infringement Issue not yet Decided (percent)
1	4	0	75	25	0
2	16	12.5	81.3	6.2	0
3	12	0	66.7	8.3	25
4	17	11.6	82.5	5.9	0
5	16	37.5	56.3	6.2	0
6	8	25	50	25	0
7	50	40	52	6	2
8	16	0	100	0	0
9	34	8.8	91.2	0	0
10	3	0	100	0	0
D.C	3	33.3	66.7	0	0
Total and Averages	179	20.1	72.1	5.6	2.2

U.S. GOVERNMENT PRINTING OFFICE 1970 O—403-560